**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
Norfolk Division**

CENTRIPETAL NETWORKS, INC.,	)	
	)	
Plaintiff,	)	
	)	
v.	)	**Case No. 2:18cv00094-HCM-LRL**
	)	
CISCO SYSTEMS, INC.	)	
	)	
Defendant.	)	

**DEFENDANT CISCO SYSTEMS, INC.'S MEMORANDUM OF LAW IN
SUPPORT OF ITS MOTION FOR A NEW TRIAL UNDER FEDERAL RULE OF
CIVIL PROCEDURE 59(a)(2)**

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I.   INTRODUCTION

Following a bench trial, this Court issued its Opinion and Order (Dkt. 621) in the above-captioned matter on October 5, 2020 ("Order"). The Order included new theories of liability and damages that Centripetal did not present and against which Cisco had no opportunity to defend. Had Cisco had notice that the Court was contemplating such different theories, it would have presented evidence to counter them. Pursuant to Federal Rule of Civil Procedure 59(a)(2), Cisco respectfully moves that the Court grant a new trial to permit Cisco to submit additional evidence and argument in response to the new theories raised in the Court's Order.

II.   LEGAL FRAMEWORK

Federal Rule of Civil Procedure 59(a)(2) provides as follows:

> *Further Action After a Nonjury Trial.* After a nonjury trial, the court may, on
> motion for a new trial, open the judgment if one has been entered, take additional
> testimony, amend findings of fact and conclusions of law or make new ones, and
> direct the entry of a new judgment.

See also Twigg v. Norton Co., 894 F.2d 672, 675-676 (4th Cir. 1990) (granting a new trial where "a new theory of liability" was introduced "without warning").

III.   ARGUMENT

A.   Issues Specific To The '176 Patent

The Court *sua sponte* adopted a new claim construction and infringement theory with regard to the '176 patent. Centripetal's infringement theory of the '176 patent was that Cognitive Threat Analytics (CTA) (a cloud-based service offered to Cisco customers who purchase either Stealthwatch equipment or Cisco proxy servers) correlates NetFlow "ingress" records (i.e., summaries of packets entering a network device) with NetFlow "egress" records (i.e., summaries of packets leaving a device) from the same network device, i.e., *a single* switch or router. *See* Tr. 977:13-978:10 (Dr. Cole: "So, essentially, it's the same router or switch that

receives the packet and generates logs and takes the packet, transmits it, and generates a second series of logs. So the activity is performed by the same device and is very similar; it's just one is receiving and one is transmitting."), 986:12-987:1, 992:23-993:18, 1101:4-13, 1102:16-1103:4, 1105:18-1106:8, 1107:23-1108:10. Cisco defended against that infringement theory, presenting evidence that the accused product combinations did not correlate ingress and egress NetFlow records for the same network device.

The Court's Order, however, posited a new theory that neither party argued, namely that the claims are infringed by correlation of records from *multiple* network devices. *See* Order at 74 ("The Court **FINDS**, based on the testimony and technical documents, that the accused switches and routers do identify and generate logs on ingress and egress. However, a look at the specification of the '176 Patent informs the Court that this is not the only construction that would infringe the asserted claims. These claim elements would also be met if there was identification, generation and correlation of logs from two different network devices on either ingress or egress."); *id.* ("This section of the specification indicates that the network device that generates the correlated logs may be plural as well as singular. Additionally, this section is showing the correlation may occur between data entries that were processed through two different network devices."). The Court proceeded to find infringement on a theory that Centripetal did not present in its case in chief and as to which Cisco did not have an opportunity to defend itself. *See id.* at 73 ("Dr. Cole, in his infringement opinion on the 'identify and generate' elements, relied on a similar claim scope as Dr. Almeroth to show that the claims required that one network device generate logs on a packets' ingress and egress out of the device."), 75 ("Therefore, even if the Court were to accept Dr. Almeroth's conclusion that the accused devices do not process ingress

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and egress out of the same device, it would still find infringement on the basis that the Cisco system correlates logs between multiple devices within the network on either ingress or egress.").

Even assuming the "network device" limitations could be satisfied by multiple network devices, the only network devices in the accused combinations for the '176 patent were routers and switches (combined with Stealthwatch and CTA). Order at 69-70 (¶¶ 8, 15); Tr. 977:13-978:10, 986:12-987:1, 992:23-993:18, 1101:4-13, 1101:16-1103:18, 1105:18-1106:8, 1107:23-1108:10. And Centripetal's only infringement theory was that CTA uses NetFlow records from a router or switch to correlate packets received by the router or switch with packets transmitted by the same router or switch. *Id.*

The Court's infringement theory requires additional hardware devices. For instance, the Court relied on correlation of syslog/WebFlow information as satisfying the claims. Order at 70, 71, 77, 79, 80, 82. As Cisco would have established had it known the Court was considering such a theory, Stealthwatch has no ability to consume syslog/WebFlow information from routers or switches. Ex. A [Llewallyn Decl.] ¶¶ 9-11. It can only consume such data from separate hardware devices called proxies or proxy servers. *Id.*; *see also* Order at 70 (¶ 15) ("The new Stealthwatch with CTA also has the functionality to be sent data *from proxy sources* using another type of logging called Syslog." (emphasis added)). Centripetal never accused proxy devices in this case, however. Order at 69 (¶ 8) (citing Tr. 975:19-21); *see also* Tr. 977:13-980:16, 1105:19-1108:18. Thus, Centripetal offered no evidence of how the claims would be satisfied under the Court's broader theory where multiple switches and routers (or proxies) are together considered "the network device."

Had Centripetal argued the multiple network devices theory, Cisco would have offered additional evidence of non-infringement, invalidity, and damages directed to this new theory. As

to non-infringement, Cisco would have elicited testimony directly demonstrating that Cisco's products do not correlate NetFlow records from multiple devices. Cisco's fact witness Danny Llewallyn testified that CTA never receives and correlates ingress and egress Netflow records from the same device, and testified that what is sent to CTA is Stealthwatch Flow (not the NetFlow records from individual switches and routers). Tr. 2182:10-25. Had Cisco known of the Court's new theory, Cisco would have elicited further testimony as to how egress and ingress records are treated when received from multiple devices. Cisco would have elicited testimony confirming that CTA does not receive NetFlow data allocated to packets into, or out of, any particular switch or router (much less multiple switches and routers) that would be necessary to do the type of correlation claimed. The Stealthwatch Flow that is sent to CTA is generated from statistical data for a single favored router or switch, and any NetFlow data from other switches or routers is de-duplicated prior to being sent to CTA. Cisco also would have presented evidence that CTA never "correlates" received and transmitted packets for a group of switches and routers so as to determine that the packets going into the group are the same as packets transmitted out of the group. Cisco would have shown that Stealthwatch (specifically the Stealthwatch Flow Collector) discards all but one of the NetFlow records (just as it has been doing since inception) to build "Stealthwatch Flow," and it is Stealthwatch Flow (not NetFlow) that is sent to CTA. Thus, Cisco would have shown that CTA never receives ingress and egress NetFlow for a group of devices to determine whether the received and transmitted packets are part of a single flow or are otherwise the same (i.e., it never "correlates" two sets packets from two sets of logs from switches or routers). Cisco attaches a factual declaration from Mr. Llewallyn providing non-exclusive examples of the types of facts Cisco would have presented in response to the Court's new infringement theory. *See* Ex. A [Llewallyn Decl.].

As to invalidity, if Cisco had had notice of this new infringement theory, it would have presented additional evidence about the state of the prior art directed to this theory. In particular, Cisco would have shown how the prior art version of Stealthwatch has, since its inception, been de-duplicating NetFlow records from multiple switches and routers to create the "Stealthwatch Flow" record that is analyzed. To the extent proxy devices had been part of the accused combination (which they were not), Cisco would have put in evidence of prior art Stealthwatch's ability to ingest proxy logs. Ex. A [Llewallyn Decl.] ¶ 15.

As to damages, Cisco would have put on evidence showing how infringement by a combination having multiple switches or routers and/or proxies would have affected Centripetal's damages theory. That is, such a theory of infringement would have required additional separately-sold devices in the accused combination, thus further limiting the extent of the royalty base.

Furthermore, given that the Court relies on a theory that Centripetal did not argue, Cisco's evidence would have further demonstrated a lack of willful infringement. Cisco cannot have willfully infringed a patent based on a theory that Centripetal did not advance at trial.

B.   Issues Specific To The '806 Patent

The Court *sua sponte* adopted a new infringement theory for the '806 Patent that relied on processing packets first against rules on "ingress" and then against rules on "egress." Specifically, the Court found that, "in their operation, the devices are configured to apply one set of rules on ingress while the very same packet would be subject to a second set of rules on egress within the same device. This process would meet the claim language of the '806 Patent to process packets with a first rule set and then in accordance with a second rule set." Order at 110. Cisco had no opportunity to address this new infringement theory during trial because

Centripetal did not assert an infringement theory where the "first rule set" is "one set of rules on ingress" and the "second rule set" is "a second set of rules on egress within the same device."

The Court found significant that Cisco's expert Dr. Reddy "does not opine or even discuss the egress portion of a packet's transmission through a switch, router or firewall." Order at 110. But Centripetal's infringement expert Dr. Mitzenmacher did not testify to such a theory either; his testimony contains not a single reference to processing packets upon "egress," let alone any assertion that the claimed first and second rule sets are satisfied by two different rule sets applied on ingress and egress. Tr. 571:15-714:19 (direct examination), 805:4-844:16 (cross examination), 866:8-868:19 (redirect examination). Centripetal also did not cross-examine Dr. Reddy on such a theory. *See* Tr. 2638:22-2642:19 (crossing Dr. Reddy on UADP operation using DTX-562 without reference to "egress" processing). Nor did Centripetal offer proposed findings of fact or conclusions of law for such a theory.

Indeed, the only evidence either party offered regarding egress packet processing was the testimony of Cisco engineer Peter Jones regarding DTX-562, which showed the internal structure of the UADP ASIC that is used only by the Catalyst 9000 series switches, not Cisco's accused routers or firewalls.[1] Centripetal's expert relied on a different document that does not show separate ingress and egress forwarding controllers (*see* PTX-1390 at 29), and invoked it only to show the presence of multiple "processors" and the use of a packet buffer. *See* Tr. 620:17-622:18.

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[1] *See, e.g.*, Tr. 2545:8-2547:14, 2549:2-10 (Mr. Jones testifying that the UADP ASIC is part of Catalyst 9000 series switches); DTX-562 at 36, 72 (illustrating UADP ASIC in connection with Catalyst 9000 series switches); PTX-1303 at 56 (showing UADP is a foundational part of Catalyst 9000 series switches).

The infringement theory Centripetal presented at trial was that the first rule set is a rule set that is used to process packets and the second rule set is an update to that first rule set; Centripetal did not argue the Court's new theory that the first and second rule sets are separate rule sets operating on ingress and egress. *See, e.g.*, Tr. 641:18-24. Had Centripetal presented the infringement theory that the Court adopted, Cisco would have responded with evidence showing why that new theory does not work for the accused Catalyst 9000 series switches, which use the UADP ASIC. To cite just one of many possible examples,[2] Cisco would have shown that the accused combinations do not "reconfigure" each processor "to process packets in accordance with the second rule set" (JTX-2 at 11:40-53, 12:51-64), because processing a packet with an ingress ACL and then an egress ACL is the normal operation of the products; there is no update or "reconfiguration" to apply the egress ACL. Cisco also would have shown that the Court's new theory is inapplicable to the accused router and firewall products, which do not even use the UADP ASIC architecture on which the Court relies. Cisco attaches a factual declaration from Peter Jones providing non-exclusive examples of the types of facts Cisco would have presented in response to the Court's new infringement theory. Ex. B [Jones Decl.]. Cisco should be given the opportunity to present this evidence at a new trial. *See Twigg*, 894 F.2d at 675-676.

The Court's new theory also would have changed Cisco's invalidity presentation. Had Cisco known that the Court was considering an infringement theory based on using different rule sets on ingress and egress, it would have presented evidence showing that its prior art Hitless

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[2] In its brief discussion of this new theory, the Court did not explain how treating an ingress ACL as the "first rule set" and an egress ACL as the "second rule set"—with both ACLs concurrently in force—would satisfy the many other claim limitations that Centripetal attempted to prove under an entirely different theory focusing on a Hitless ACL *Update* to a previous rule set. Order at 110. If Centripetal were forced to map all of the claim limitations to this new theory (which never occurred at trial), Cisco would have responded with additional facts showing that the accused combinations do not meet additional limitations of the asserted claims.

ACL feature used different rule sets for ingress packets and egress packets indistinguishably from the accused products. *See* Ex. B [Jones Decl.] ¶ 12.

The Court's reliance on this new infringement theory for the '806 Patent also relates to the Court's finding of willfulness. Again, Cisco should not be held to have willfully infringed a patent based on a theory that Centripetal did not advance at any point in the case.

C.   Overarching Damages And Willfulness Issues

At the conclusion of Dr. Becker's testimony, the Court indicated that—"to try to figure out what's going on between these various opinions"—it needed the monthly sales data from June 2016 for (1) the products at issue with respect to each of the Patents-in-Suit, and (2) the "predecessor products." Tr. 2968:17-2969:12. The Court chose June 20, 2017 as the demarcation line "because that's when the products were first accused," although the Court noted that "it's not clear to me exactly when all the changes were made to the Cisco products." Tr. 2970:5-8.

In its Opinion and Order, the Court used the sales data from June 2016-June 2017 in a way that Centripetal never had. The Court set forth a table summarizing "Centripetal's estimates regarding Cisco's revenue increase for the infringing products, after the date of first infringement, as compared to the predecessor products sales for the fiscal year before June 20, 2017." Order at 139-140. The Court concluded that "[t]here is no evidence that these increases in sales revenue were attributed to improvements in the hardware itself. The infringing software significantly improved existing hardware by not only adding security functionality, but speed and scalability as well." *Id.* at 140. The Court used this conclusion to find that "the patented functionality added very significant value to the older technology" and thus "a substantially increased royalty figure." *Id.* at 142. In addition to using this evidence to support a higher

royalty rate, the Court also identified this evidence in support of its willfulness finding—specifically, as to the fourth *Read* factor. Order at 158-159.

Comparing product sales from June 2016-June 2017 to product sales over the subsequent three-year period was not a damages model that Centripetal presented to the Court. Nor was it a model that Centripetal (via its damages experts Mr. Gunderson or Mr. Malackowski) had ever suggested would be appropriate. In fact, it cannot be reconciled with Centripetal's infringement allegations. For example, as to the '806 Patent and the accused combination of firewalls (ASA and Firepower appliances) and the Firepower Management Center, the transactional commit model (TCM) functionality Centripetal relied on was developed in 2013 and added to the ASA in 2014. *See*, *e.g.*, Tr. 698:8-703:24, 2519:17-2522:17 (discussing PTX-1196, which shows initial draft of September 12, 2013). Centripetal's infringement allegations, however, were not triggered until October 2017 when the Threat Intelligence Director feature was added to the Firepower Management Center. Tr. 181:12-182:6 (plaintiff's opening, discussing Threat Intelligence Director); Tr. 558:16-561:17, 649:12-662:13 (Mitzenmacher direct discussing the Threat Intelligence Director). In other words, comparing sales of the firewalls (ASA and Firepower appliances) and FMC before and after June 2017 does not show anything attributable to the value of the '806 Patent.

As to the '193 Patent, the Court pointed to the Secure Group Tab / Scalable Group Tag ("SGT") as being the "specific method" utilized by Cisco's IOS XE "where labels are applied to packets based on their source or destination." Order at 87 (citing to PTX-1276). PTX-1276 is a software functional specification document with revisions dated in 2013 and 2014. *See* PTX-1276 at 1-4. There is no evidence in the record that this functionality changed in or around June 2017—that date is simply when the '193 Patent issued. Moreover, the Court's infringement

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finding depends on functionality provided by the Identity Services Engine. *See*, *e.g.*, Order at

87-88 (noting that only SGACLs are accused of infringement), 90 (citing to PTX-1284, -1326),

92-93, 96-97. But there is no evidence in the record that the functionality of ISE had ever

changed, and certainly not in June 2017 when the '193 Patent issued. Thus, while June 20, 2017

is the date of first infringement because that is when the '193 Patent issued, comparing revenues

from one year before that date to three years after in no way demonstrates any impact of the

accused functionality on sales of Cisco's routers and switches, much less of the accused

combinations, i.e., the routers and switches working in conjunction with the Identity Services

Engine.

Similar examples abound for each of the Patents-in-Suit. Had Mr. Gunderson presented

opinions relying on comparing sales figures from 2016-2017 to subsequent years, or had

Centripetal ever argued that such a comparison might be relevant, Cisco would have collected

and presented evidence and additional opinions from Dr. Becker in response. In short, the

Court's *sua sponte* treatment of 2016-2017 sales data as supporting a conclusion that "the

patented functionality added very significant value to the older technology," Order at 142,

unfairly prejudiced Cisco and prevented it from presenting argument and evidence in opposition

to this novel damages theory. Accordingly, the Court should reopen the record to permit Cisco

to respond to that new theory. *Cf. Twigg*, 894 F.2d at 675-676.

IV.   CONCLUSION

The Court should reopen the judgment and order a new trial to permit Cisco to submit

evidence and argument addressing the Court's new theories of liability and damages that

Centripetal never advanced during trial.

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Dated: November 2, 2020   CISCO SYSTEMS, INC.

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